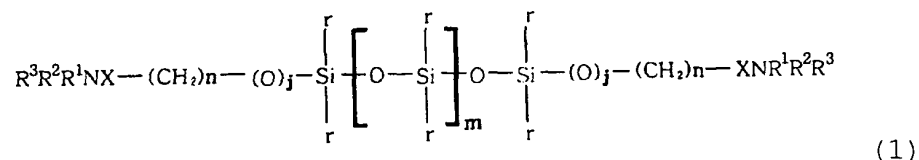


WHAT IS CLAIMED IS:

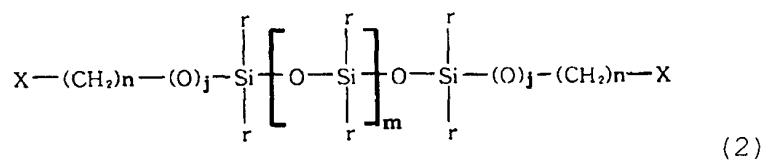
1. A gemini surfactant represented by the following formula (1):



5 wherein each of R^1 and R^2 is independently methyl or ethyl group, R^3 is an alkyl group having 5 to 40 carbon atoms, X is a halogen atom, each of r is independently a hydrogen atom, methyl group or an alkoxy group having 1 to 10 carbon atoms, j is 0 or 1, m is an integer of from 0 to 10, and n is
10 an integer of from 1 to 12.

2. A method of preparing the gemini surfactant according to claim 1, the method comprising the steps of:

15 mixing a compound represented by the following formula (2):



 wherein X is a halogen atom, each of r is independently a hydrogen atom, methyl group or an alkyl group having 1 to 10 carbon atoms, j is 0 or 1, m is an integer of from 0 to 10 and
20 n is an integer of from 1 to 12, and a compound represented by the following formula (3):



wherein each of R^1 and R^2 is independently methyl or ethyl group, and R^3 is an alkyl group having 5 to 40 carbon atoms, in a molar ratio of 1:2~1:3; and

5 reacting the mixture in ethanol, acetonitrile, or toluene as a solvent at 30~120°C for 1~100 hours.

3. A method for preparing a mesoporous material using the gemini surfactant according to claim 1 as a structure-
10 directing agent.

4. The method according to claim 3, wherein the mesoporous material is prepared through the following steps:

(A) mixing an aqueous solution of the gemini surfactant
15 with a precursor;

(B) adjusting pH of the mixture of step (A) using an acid or base;

(C) hydrothermally reacting the mixture of step (B);

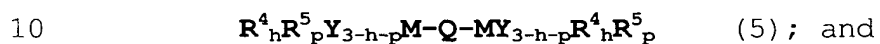
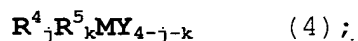
(D) filtering, washing and drying the material obtained
20 from step (C); and

(E) calcining the material obtained from the step (D).

5. The method according to claim 4, wherein in step (A) the aqueous solution is a basic solution containing 0.1~5.0%
25 by weight of the gemini surfactant and 0.5~2.0% by weight of a

strong base, or an acidic solution containing 0.1~5.0% by weight of the gemini surfactant and 0.5~2.0% by weight of a strong acid.

5 6. The method according to claim 4, wherein in step (A) the precursor is one or more compounds selected from the group consisting of compounds represented by the following formulas (4) to (6):



 wherein each of R^4 and R^5 is independently an alkyl group having 1 to 10 carbon atoms, Y is an alkoxy group having 1 to 5 carbon atoms, M is Si or Ti atom, M' is Al atom, Q is an
15 alkylene group having 1 to 15 carbon atoms, or an arylene, an alkylarylene or an arylalkylene group, having 6 to 40 carbon atoms, each of j and k is independently an integer of from 0 to 3 provided that $0 \leq j + k \leq 3$, and each of h and p is independently an integer of from 0 to 2 provided that $0 \leq h +$
20 $p \leq 2$.

 7. The method according to claim 6, wherein the precursor is mixed in an amount of 1 to 100 moles per 1 mole of the gemini surfactant.

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8. The method according to claim 4, wherein in step (C) the hydrothermal reaction is processed at 60~150°C for 1 to 144 hours.

5 9. The method according to claim 4, wherein in step (D) the material obtained from step (C) is filtered, washed 2 to 5 times using distilled water, and dried at 50~200°C for 3 to 30 hours.

10 10. The method according to claim 4, wherein in step (E) the material obtained from step (D) is calcined at 400~600°C under nitrogen atmosphere for 0.5~30 hours.

15 11. The method according to claim 3, wherein the mesoporous material is prepared in the form of thin film through the following steps:

 dissolving the gemini surfactant in a solvent selected from the group consisting of aromatic hydrocarbons, ketons, ethers, alcohols and mixtures thereof;

20 mixing a precursor aqueous solution to the solution;
 coating the resulting solution to form a thin film; and
 drying and calcining the thin film.